

# (12) UK Patent Application (19) GB (11) 2 112 984 A

(21) Application No 8228670

(22) Date of filing 7 Oct 1982

(30) Priority data

(31) 8139157

(32) 31 Dec 1981

(33) United Kingdom (GB)

(43) Application published

27 Jul 1983

(51) INT CL<sup>3</sup>

G07F 17/34

(52) Domestic classification

G4V 118 AA

U1S 1174 G4V

(56) Documents cited

GB 1568522

(58) Field of search

G4V

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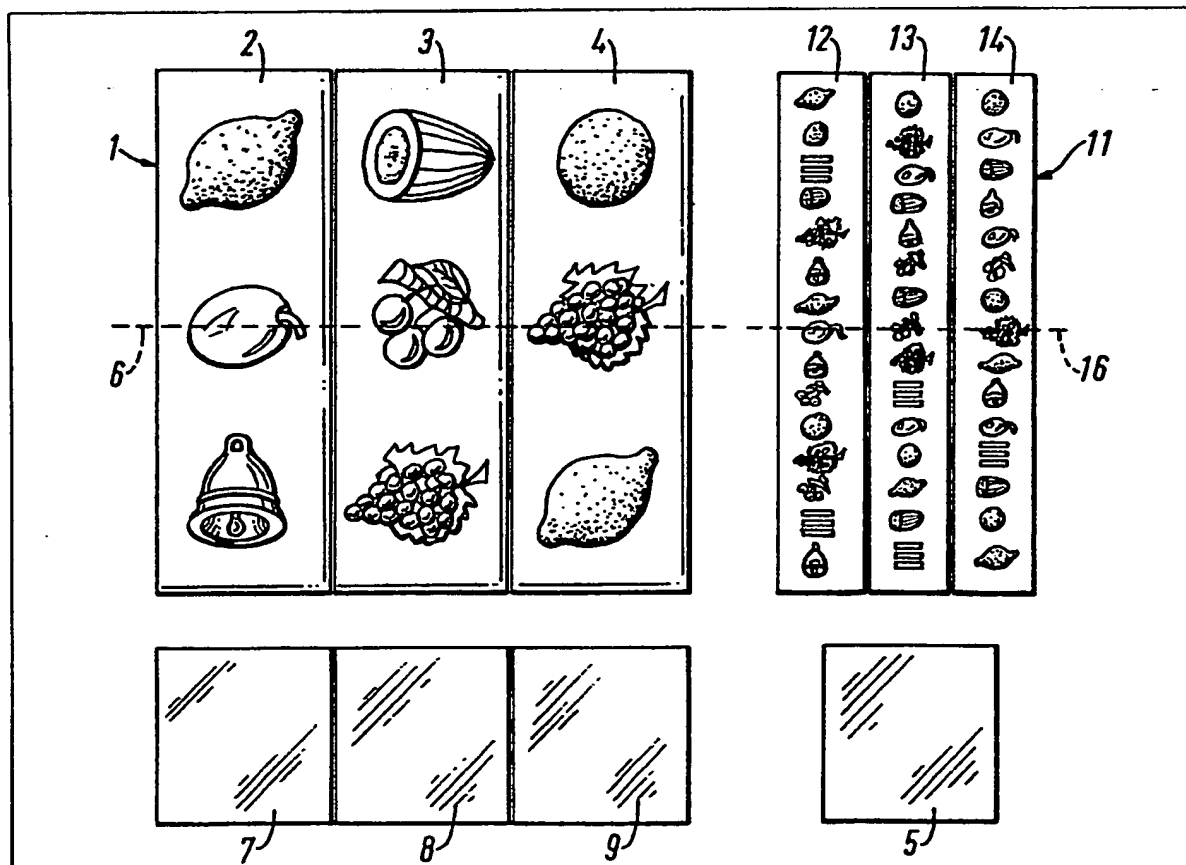
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(54) Gaming machines

(57) A fruit machine incorporates a video display device providing a main display 1 in the form of a video representation of three reels 2, 3 and 4 bearing symbols. A game button 5 is depressed to cause the reels 2, 3 and 4 to appear to be spun about a horizontal axis and to come to rest, one at a time, so as to display a combination of three symbols along a combination line 6. A nudge feature may be awarded whereby any of the reels 2, 3 and 4 may be indexed any

number of times by pressing the nudge buttons 7, 8 and 9 provided that the total number of nudges does not exceed the number initially awarded. When this feature is awarded a subsidiary display 11 in the form of three subsidiary simulated reels 12, 13 and 14 is rendered visible alongside the main display 1. Each subsidiary reel 12, 13 or 14 bears a sequence of small symbols corresponding to a part of the sequence of symbols through which the associated main reel 2, 3 or 4 is capable of being cycled. Furthermore each subsidiary reel 12, 13 or 14 is indexed in synchronism with the associated main reel 2, 3 or 4 so that the subsidiary display 11 provides the player with information as to the sequence of symbols on the main reels as an aid to nudging.



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The drawing originally filed was informal and the print here reproduced is taken from a later filed formal copy.



## SPECIFICATION

### Gaming machines

This invention relates to gaming machines, and is more particularly, but not exclusively, concerned with fruit machines.

Fruit machines are coin-operated gaming machines in which fruit symbols and/or other symbols are displayed by rotary members or a simulated image of such rotary members on a video screen or by some other form of display device. The rotary members are caused to rotate or appear to rotate in response to actuation of one or more game buttons by a player, and a prize is awarded when the combination of symbols visible to the player along a combination line corresponds to a winning combination.

It is well known for such machines to incorporate a nudge feature whereby, when all the rotary members have stopped rotating, the player may be given the option of indexing one or more of the rotary members by actuating nudge buttons associated with the rotary members in order to display a new combination of symbols along the combination line. Generally the player is awarded a particular number of nudges and may then index any of the rotary members by one symbol any number of times provided that the total number of nudges does not exceed the number allotted. However, when the rotary members are stationary, the player may generally only see one line of symbols on the rotary members above the combination line and one line of symbols below the combination line, so that, unless he knows the sequence in which the symbols are ordered in respect of each rotary member, he will not be able to predict the final combination of symbols along the combination line if one of the rotary members is nudged more than once.

It is an object of the invention to provide a gaming machine with a feature which gives the player additional information on the sequence of the symbols displayed by the rotary members as an aid to nudging the rotary members.

According to the invention there is provided a gaming machine comprising a visual display device, main display means for providing a main visual display on the display device simulating main rotary members bearing symbols, a game switch for initiating simulated rotation of the main rotary members so as to cause a series of symbols to be sequentially displayed by each of the rotary members and so as to cause the rotary members to come to rest with a combination of symbols displayed along the combination line, subsidiary display means for providing a subsidiary visual display on the display device for indicating to the player at least a part of the sequence of symbols which is capable of being displayed by an associated main rotary member, and selection means for rendering the subsidiary visual display visible as a game feature.

The selection means may render the subsidiary visual display visible, either in place of the main display or by addition to the main display, when

actuated either automatically or on depression of a switch when a game feature is made available to the player.

Preferably the subsidiary display means provides a subsidiary visual display in the form of at least one sequence of symbols indicative of at least a part of the sequence of symbols which is capable of being displayed by an associated main rotary member, the part sequence being such that the symbols of the part sequence cannot all be displayed by the associated main rotary member at the same time. The player is thereby provided with additional information on the sequence of symbols displayed.

Furthermore the subsidiary display means preferably provides a subsidiary visual display in the form of at least one simulated subsidiary rotary member bearing a sequence of symbols indicative of at least a part of the sequence of symbols which is capable of being displayed by an associated main rotary member.

In a development of the invention at least one indexing switch is provided for enabling the or each subsidiary rotary member, and optionally also the or each associated main rotary member, to be indexed to change the combination of symbols displayed by the rotary members. This ensures that information which is imparted to the player by the subsidiary display means remains relevant as the nudges are taken.

Conveniently the subsidiary display means provides a subsidiary visual display for indicating to the player the symbol of an associated main rotary member of the combination line and a predetermined number of symbols on each side of said symbol in the sequence of symbols which is capable of being displayed by the main rotary member. Clearly it will be necessary for the subsidiary display means to indicate sequences of symbols on both sides of the combination line where provision is made for indexing the rotary members in either direction in response to the actuation of the nudge switches.

In order that the invention may be more fully understood, reference will now be made, by way of example, to the accompanying drawing in which the single figure diagrammatically shows the viewing zone of a fruit machine in accordance with the invention.

The illustrated fruit machine incorporates a video display device providing a main display 1 which comprises three symbols on each of three simulated reels 2, 3 and 4. When a game button 5 is depressed by the player after insertion of a coin or token into the machine, or after a credit has been awarded to the player, the video representation of each of the reels 2, 3 and 4 will change cyclically so that the reels 2, 3 and 4 will appear to be spun about a horizontal axis and will come to rest, one at a time, so as to display a particular combination of three symbols along a combination line 6. If this combination corresponds to a winning combination the player will be awarded a prize.

Whether a winning combination is obtained or

not, a game feature may be awarded whereby the player is given the option of pressing one or more of three nudge buttons 7, 8 and 9 to index one or more of the reels 2, 3 and 4 in order to change the

5 combination of three symbols displayed along the combination line 6. The number of nudges awarded to the player is indicated by the display device, and the player may nudge any of the reels 2, 3 and 4 any number of times by pressing the  
10 nudge buttons 7, 8 and 9 provided that the total number of nudges does not exceed the number initially awarded. In this way the player may move on to the combination line 6 one or more symbols which complete or contribute to a winning  
15 combination.

There may also be provided on the display device adjacent the main display 1 a subsidiary display 11 which comprises three subsidiary simulated reels 12, 13 and 14 bearing small  
20 symbols corresponding to those which are capable of being displayed by the main reels 2, 3 and 4. The sequence of symbols which is visible to the player on each of the subsidiary reels 12, 13 and 14 corresponds to a part of the sequence of  
25 symbols through which the associated main reel 2, 3 or 4 is capable of being cycled. More particularly each subsidiary reel 12, 13 or 14 shows the player the symbol along a subsidiary combination line 16 which corresponds to the  
30 symbol on the associated main reel 2, 3 or 4 which lies along the combination line 6, the symbols on each side of the auxiliary combination line 16 which correspond to the symbols on the associated main reel 2, 3 or 4 on each side of the  
35 combination line 6, and further symbols which are not at the time visible to the player on the main display 1. Thus, for example, the subsidiary reel 12 shows not only the symbol of the main reel 2 lying on the combination line 6 but also the next seven  
40 symbols in the sequence of the main reel 2 and the last seven symbols in the sequence of the main reel 2 if the main reel 2 is considered as being cycled so as to appear to rotate in a clockwise direction as viewed from the left in the  
45 figure. Similarly the subsidiary reels 13 and 14 each show fifteen out of the total of twenty two symbols in the sequence through which the associated main reel 13 or 14 may be cycled.

At the beginning of a game only the main reels  
50 2, 3 and 4, and not the subsidiary reels 12, 13 and 14, are visible on the display device. If the nudge feature then becomes available, the number of nudges awarded is shown on the display device, this number possibly being determined by a  
55 subsidiary game feature, and the subsidiary reels 12, 13 and 14 are rendered visible on the display device alongside the main reels 2, 3 and 4. This enables the player to refer to the subsidiary reels 12, 13 and 14 to determine how the nudges may  
60 best be distributed among the three main reels 2, 3 and 4 in order to obtain the best winning combination. For example, if a total of twelve nudges is awarded, the player may be able to determine that the best win would be obtained by

65 nudging the first reel 2 eleven times, the second reel 3 once and the third reel 4 not at all. As each main reel 2, 3 or 4 is indexed by one by pressing the associated nudge button 7, 8 or 9, the associated subsidiary reel 12, 13 or 14 is also  
70 indexed by one so that the combination of symbols along the auxiliary combination line 16 corresponds at all times to the combination of symbols along the combination line 6 and each subsidiary reel 12, 13 or 14 always displays seven  
75 symbols above the line 16 and seven symbols below the line 16.

When all the allowed nudges have been taken or a win has been awarded, the subsidiary reels 12, 13 and 14 will disappear leaving only the main reels 2, 3 and 4 in view.

80 In another embodiment in accordance with the invention which is not illustrated in the drawing a "peep" button is provided which may be pressed by the player when the nudge feature becomes  
85 available in order to cause the main display to disappear and to be replaced by a subsidiary display substantially the same as the subsidiary display 11 shown in the drawing. The player may then nudge any of the subsidiary reels any number  
90 of times by pressing the nudge buttons provided that the total number of nudges does not exceed the number initially awarded. If the combination of symbols along the auxiliary combination line corresponds to a winning combination the  
95 subsidiary reels will be replaced by the main reels and a prize will be awarded. If all the allowed nudges have been taken and a winning combination has not been obtained, the subsidiary reels will again be replaced by the main reels but  
100 no prize will be awarded.

In a modification of this embodiment an additional game feature is provided whereby the player is given the option of gambling the number of nudges awarded prior to pressing the "nudge"  
105 buttons in the hope of increasing the number of nudges available. In order to determine whether it would be worthwhile to gamble the number of nudges, the player is given the option of pressing a "peep" button to cause the main display to be temporarily replaced by the auxiliary display so  
110 that the player may assess the chances of obtaining a win using an increased number of nudges. When the peep button is released the main display reappears on the display device.

115 Various other modifications to the above-described video fruit machines are possible without departing from the scope of the invention. The reels may be nudged automatically on depression of a "winfinder" button so as to obtain  
120 the best winning combination consistent with the number of nudges awarded. Furthermore the subsidiary reels may display symbols which are indicative of, but not the same as, the symbols displayed by the main reels. For example, in order  
125 to indicate the presence of a cherry symbol on the associated main reel, a subsidiary reel may have the word "CHERRY" or simply the letters "CH" marked thereon.

# CLAIMS

1. A gaming machine comprising a visual display device, main display means for providing a main visual display on the display device  
 5 simulating main rotary members bearing symbols, a game switch for initiating simulated rotation of the main rotary members so as to cause a series of symbols to be sequentially displayed by each of the rotary members and so as to cause the rotary  
 10 members to come to rest with a combination of symbols displayed along the combination line, subsidiary display means for providing a subsidiary visual display on the display device for indicating to the player at least a part of the sequence of  
 15 symbols which is capable of being displayed by an associated main rotary member, and selection means for rendering the subsidiary visual display visible as a game feature.

2. A gaming machine according to claim 1,  
 20 wherein the selection means is adapted to render the subsidiary visual display visible in place of the main visual display.

3. A gaming machine according to claim 1,  
 25 wherein the selection means is adapted to render the subsidiary visual display visible to one side of the main visual display.

4. A gaming machine according to claim 1, 2 or 3, wherein the selection means is adapted to render the subsidiary visual display visible on  
 30 depression of a switch by the player when a game feature is made available to the player.

5. A gaming machine according to claim 1, 2 or 3, wherein the selection means is adapted to render the subsidiary visual display visible  
 35 automatically when a game feature is awarded.

6. A gaming machine according to any preceding claim, wherein the subsidiary display means provides a subsidiary visual display in the form of at least one sequence of symbols  
 40 indicative of at least a part of the sequence of symbols which is capable of being displayed by an associated main rotary member, the part sequence being such that the symbols of the part sequence cannot all be displayed by the  
 45 associated main rotary member at the same time.

7. A gaming machine according to claim 6,

wherein the subsidiary display means provides a subsidiary visual display in the form of at least one simulated subsidiary rotary member bearing a  
 50 sequence of symbols indicative of at least a part of the sequence of symbols which is capable of being displayed by an associated main rotary member.

8. A gaming machine according to claim 7,  
 55 wherein at least one indexing switch is provided for enabling the or each subsidiary rotary member, and optionally also the or each associated main rotary member, to be indexed to change the combination of symbols displayed by the rotary members.

9. A gaming machine according to any preceding claim, wherein the subsidiary display means provides a subsidiary visual display for indicating to the player the symbol of an associated main rotary member on the  
 65 combination line and a predetermined number of symbols on each side of said symbol in the sequence of symbols which is capable of being displayed by the main rotary member.

10. A gaming machine comprising rotary  
 70 members or simulated rotary members, or some other form of display device, bearing symbols, a game switch for initiating rotation or cycling of the rotary members or display device, the rotary members or display device serving to display a  
 75 combination of symbols to the player along a combination line when said rotation or cycling has stopped, at least one nudge switch enabling an associated rotary member or an associated part of the display device to be indexed to change the combination of symbols displayed along the  
 80 combination line, and subsidiary display means for indicating to the player the distribution of certain symbols in the sequence of symbols which is capable of being displayed by said associated rotary member or said associated part of the display device at least some of which are not at the time visible to the player on said rotary member or display device.

11. A gaming machine substantially as  
 90 hereinbefore described with reference to the accompanying drawings.